

# 10

## Environment & Ethics

### Learning Objectives

After reading this chapter, you will be able to-

- ◆ Explain the Concept of Sustainable Development
- ◆ Understand the Effects of Pollution and Resource Depletion
- ◆ Understand the importance of Conservation of Natural Resources
- ◆ Explain Eco friendly Business Practices

*"Once the last tree is cut and the last river poisoned, you will find you cannot eat your money."*

**(Proverb)**

### 10.1 Introduction

The Prayer "Sarvatra Sukhinah Santu Sarve Santu Niramayah;" 'Let all be happy here and let all enjoy full health' of Vedic Sages echoed universal welfare. The earthly life constituted the central concern for the Vedic Aryans. The sacrificial fire-rites which were evolved during Vedic period had social welfare as its motto, the motive was to prepare the land for agriculture for abundance and welfare of human race. Gandhiji said "There's enough on this planet for everyone's needs but not for everyone's greed."

Industrial and technological development has provided us with material prosperity but has also created unique environmental threats to us and to future generations. As the twenty-first century begins, several well-established environmental trends are shaping the future of civilization - rising pollution, global warming, falling water tables, shrinking forests, and the loss of plant and animal species. The extent of the environmental damage produced by present and projected industrial technology makes one wonder how long this kind of development would be sustainable.

### 10.2 Sustainable Development

The Concept of sustainable development was brought into focus by <sup>1</sup>Brundtland Report, which

<sup>1</sup> Report of Brundtland Commission – 'Our Common future', 1987

stated that economic growth has to be environmentally sustainable. There is no economic growth without ecological costs. One must realize that increased development and higher GNP are related to environmental damage and resource depletion. Therefore, an element of resource regeneration and positive approach to environment have to be incorporated in developmental programmes. Literally sustainable development refers to maintaining development over time. Most widely cited definition of sustainable development is <sup>2</sup>"Development that meets the needs of the present without compromising the ability of future generations to meet their own needs." A nation or society should satisfy its requirements – social, economic and others – without jeopardizing the interest of future generations.

High economic growth means high rate of extraction, transformation and utilization of non-renewable resources. There is no doubt that twenty first century markets shall be driven by the requirements of sustainable environments.

### 10.3 Pollution and Resource Depletion

*Pollution* refers to the undesirable and unintended contamination of the environment by the manufacture or use of commodities. *Resource depletion* refers to the consumption of finite or scarce resources. In a certain sense, pollution is also a type of resource depletion because contamination of air, water, or land diminishes their beneficial qualities.

**Air Pollution:** Air pollution has increased exponentially as industrialization expanded. The most prevalent forms of air pollution are the gases and particulates spewed out by autos and industrial processes, which affect the quality of the air we breathe. One of the worst industrial disasters of all time occurred in Union Carbide's plant in Bhopal on the night of December 3, 1984. The accidental release of methyl-isocyanate in the congested, low-income district of Old Bhopal killed 3,000 people and left many thousand more with chronic disabilities leading to premature deaths.

Air pollutants also affect vegetation decreasing agricultural yields, deteriorate exposed construction materials through corrosion, discoloration, and rot, are hazardous to health and life and threaten disastrous global damage in the form of global warming, destruction of the stratospheric ozone layer and acid rains.

**Global Warming:** Greenhouse gases - carbon dioxide, nitrous oxide, methane, and chlorofluorocarbons, occur naturally in the atmosphere to absorb and hold heat from the sun, preventing it from escaping back into space, to keep the earth's temperature about 33°C warmer than it would otherwise be, so that life can evolve and flourish. However, industrial, and other human activities during the last 50 years have released substantially more greenhouse gases into the atmosphere, particularly by the burning of fossil fuels such as oil and coal rising the levels of greenhouse gases and resulting in increasing amounts of heat, raising temperatures around the globe. Average global temperatures are now at least 1°C higher than in 1900 and are expected to rise by upto 4.5°C during this century. This rising

<sup>2</sup> World Commission on Environment and Development, 1987

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heat will expand the world's deserts; melt the polar ice caps, causing sea levels to rise; make several species of plants and animals extinct; disrupt farming; and increase the distribution and severity of diseases. Bodies of water such as lakes and oceans will warm, and this will dramatically shift the geographical distribution of fish and other marine species and increase the frequency and magnitude of droughts. The increase in levels of greenhouse gases would require reducing current emissions of greenhouse gases by 60 to 70 percent—an amount that would seriously damage the economies of both developed and developing nations.

*Ozone Depletion:* A layer of ozone in the lower stratosphere screens all life on earth from harmful ultraviolet radiation. This ozone layer, however, is destroyed by CFC gases, which have been used in aerosol cans, refrigerators, air conditioners, industrial solvents, and industrial foam blowers. When released into the air, CFC gases rise; in 7 to 10 years, they reach the stratosphere, where they destroy ozone molecules and remain for 75 to 130 years, continuing all the while to break down additional ozone molecules. Shrinking of the ozone layer. This results in the subsequent increase of ultraviolet rays which could cause several hundred thousand new cases of skin cancer and could also lead to considerable destruction of the 75 percent of the world's major crops that are sensitive to ultraviolet light.

But ozone depletion has been minimized with adoption of the Vienna Convention on ozone depletion in the year 1985 and Montreal Protocol on substances that deplete the ozone layer in the year 1989. Under these two international agreements various Governments had restricted the use of CFC gases by the business houses within their national borders. It is believed that if the international agreement is adhered to, the ozone layer is expected to recover by 2050. Due to its widespread adoption and implementation it has been hailed as an example of exceptional international cooperation with Kofi Annan (former U.N. Secretary General) quoted as saying of the Montreal Protocol that is perhaps the single most successful international agreement to date.

*Acid Rain :* Like global warming, acid rain is a threat to the environment that is closely related to the combustion of fossil fuels (oil, coal, and natural gas), which are heavily used by utilities to produce electricity. Burning fossil fuels, particularly coal containing high levels of sulphur, releases large quantities of sulphur oxides and nitrogen oxides into the atmosphere. When these gases are carried into the air, they combine with water vapour in clouds to form nitric acid and sulphuric acid. These acids are then carried down in rain, which often falls hundreds of miles away from the original sources of the oxides raising the acidity of the water sources. It also soaks into soils and falls directly on trees and other vegetation. Numerous studies have shown that many fish populations and other aquatic organisms are unable to survive in lakes and rivers that have become highly acidic due to acid rain. Other studies have shown that acid rain directly damages forests and indirectly destroys the wildlife and species that depend on forests for food and breeding. Acidic rainwater can also contaminate drinking water. Acid rain can corrode and damage buildings, statues, and other objects, particularly those made of iron, limestone, and marble.

**Water Pollution:** In 1985, about 11,000 oil spills, involving about 24 million gallons of oil, were recorded in and around U.S. In the past, the oceans have been used as disposal sites for

intermediate and low -level radioactive wastes. Oceanographers have found traces of plutonium, cesium, and other radioactive materials in seawater that have apparently leaked from the sealed drums in which radioactive wastes are disposed.

Although water is essential to human life as well as to industrial growth and development, the world's per capita supplies of water are shrinking and are now 30 percent smaller than 25 years ago. A number of factors have contributed to this. An increase in population and economic activity particularly in urban areas, has resulted in increased demands for water. To meet these demands, water is being increasingly diverted from agricultural irrigation to provide water for cities.

#### **Land Pollution:**

*Solid Wastes:* Each year people living in cities produce tons of solid wastes every year. City garbage dumps are significant sources of pollution, containing toxic substances such as cadmium (from rechargeable batteries), mercury, lead (from car batteries and TV picture tubes), vanadium, copper, zinc.

*Hazardous or toxic substances:* are those that can cause increase in mortality rates or irreversible or incapacitating illness or those that have other seriously adverse health or environmental effects. Benzene is a common industrial toxic chemical used in plastics, dyes, nylon, food additives, detergents, drugs, fungicides, and gasoline. Benzene workers are several times more likely than the general population to get leukemia. Vinyl chloride is another common industrial chemical used in the production of plastics, which is released in small amounts when plastic products deteriorate, causes liver damage; birth anomalies; liver, respiratory, brain, and lymph cancers, and bone damage Basel Convention 1992.

**Depletion of fossil fuels:** Fossil fuels depletion at an exponentially rising rate results in the loss of forest habitats. Combined with the effects of pollution it has led to the extinction of a phenomenal number of species and the danger of many existing species disappearing forever.

## **10.4 Ecological Ethics**

The problem of pollution and other environmental issues can best be framed in terms of our duty to recognize and preserve the ecological systems within which we live. An ecological system is an interrelated and interdependent set of organisms and environments, such as a lake, in which the fish depend on small aquatic organisms, which in turn live off decaying plant and fish waste products. Since the various parts of an ecological system are interrelated, the activities of one of its parts will affect all the other parts. Business firms (and all other social institutions) are parts of a larger ecological system. Business firms depend on the natural environment for their energy, material resources, and waste disposal, and that environment in turn is affected by the commercial activities of business firms. For example, the activities of 18<sup>th</sup> century European manufacturers of beaver hats led to the wholesale destruction of beavers (a semi aquatic large furry rodent) in the United States, which in turn led to the drying up of the innumerable swamp lands that had been created by beavers. Unless businesses recognize the interrelationships and interdependencies of the ecological systems within which

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they operate and unless they ensure that their activities will not seriously injure these systems one cannot hope to deal with the problem of pollution.

Ecological ethics is based on the idea that the environment should be protected not only for the sake of human beings but also for its own sake. The issue of environmental ethics goes beyond the problems relating to protection of environment or nature in terms of pollution, resource utilization or waste disposal. It is the issues of exploitative human nature and attitudes that should be addressed in a rational way. Problems like Global warming, Ozone depletion and disposal of hazardous wastes that concern the entire world. They require International cooperation and have to be tackled at the global level.

### 10.5 Conservation of Natural Resources

*Conservation* refers to the saving or rationing of natural resources for later uses. Conservation, therefore, looks primarily to the future: to the need to limit consumption now to have resources available for tomorrow. In a sense, pollution control is a form of conservation. Pollution "consumes" pure air and water, and pollution control "conserves" them for the future. Consequently, our concern over the depletion of resources is primarily a concern for future generations. Conservation, therefore, is the only way of ensuring a supply for tomorrow's generations.

**Business and Environmental Ethics :** Few decades ago, the corporate world, the industry or others engaged in the use of natural resources or environmental services were mainly concerned with good business in economic sense. Concern for environment and resource depletion was not on their agenda; if conservation of resources was required it was with a motive of mere economic gains or profits.

Not only in India but all over the world, there is now a growing concern for Social responsibility and ethical norms in all spheres of human activities; be it public behaviour, business or environment and there are ethical concerns to look after not only the interest of stakeholders but also that of community; as the regulatory / mandatory requirements have also become more stringent. This translates into providing safety for the workers at workplace, concern for their health, reducing pollution and incorporating environmental values in governance.

Environmental ethics is a larger issue that concerns ethical behaviour of all types of organisations ranging from International bodies, national governments, opinion makers, media, intelligentsia, public and private enterprises and NGOs. In India many companies have come to realize that ethical practices make good business sense especially the organisations engaged in exports as these organisations have to satisfy the importer in regard to the quality, ethics and environmental standards.

### 10.6 Developments in India

The Chipko movement in India is a proof of people's concern about balance in ecosystem when in 1973 they embraced the trees to prevent their felling by the government. In India especially the big cities are having the problem of air pollution on account of concentration of

industries and power plants. Also the automobiles are proving to be the greatest challenge for abatement of air pollution.

In pursuant to the Stockholm Conference, India passed the Air (Control and Prevention of Pollution) Act 1981, the Factories Act, 1948 as amended by the Act of 1987 contains provisions for preventing pollution.

Under the Motor Vehicles Act, 1988 and Rules framed there under stringent measures are stipulated to prevent air pollution, earlier also air-pollution measures were enacted through:

1. The Factories Act, 1948.
2. The Industries (Development and Regulation) Act, 1951.
3. Mines and Minerals (Regulation and Development) Act, 1957.

## 10.7 Eco- friendly Business Practices

Business and Industry are closely linked with environment and resource utilization. Production process and strategy for eco-friendly technologies throughout the product life cycle and minimization of waste play major role in protection the environment and conservation of resources. Business, Industry and multinational corporations have to recognize environmental management as the priority area and a key determinant to sustainable development. Sound management of wastes is among the major environmental issues for maintaining the quality of Earth's environment and achieving sustainable development. Accordingly, waste management is to be done through following systems.

- (i) Minimum production of waste.
- (ii) Maximizing reuse of waste and recycling.
- (iii) Promoting environmentally sound waste disposal practices.

Economic progress and environmental protection is not a conflicting proposition. If companies redesign products and adopt latest technologies available; they can achieve the goals of reduction in wastage and resources depletion. This requires a new thinking and strategies in respect of environment-business relationship. A change is needed at all levels starting from organisational structure, finance, manufacturing, marketing, operations, accounting and other related disciplines. Some enlightened leaders of industry and trans national corporations are implementing certain policies that show environmental concern- viz. Environment Impact Assessment (EIA) and Environmental Audits. Some businesses have realized that implementation of environmental standards like ISO 14001 can provide competitive advantage like TQM did in 1980's and 1990's. Environmental consideration have become a part of corporate strategy, which means incorporating environmental issues in the process of developing a product, in new investments and in the organisational set up. A good environmental practice improves corporate performance. In many industries it has been found that environmental friendly practices have resulted in more savings; for example the process of recycling the waste. Thus environmental considerations play a key role in corporate

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strategy. Markets of new millennium will be able to create wealth if they respond to the challenges of sustainable development as unsustainable products will become obsolete.

Business must therefore make environmental ethic an integral part of their corporate goal, taking care that their practices, processes, and products conserve energy and resources and have a minimum impact on ecosystems.

Industries that are based on natural resources, like minerals, timber, fibre, and foodstuffs, etc. have a special responsibility for:

1. adopting practices that have built-in environmental consideration.
2. introducing processes that minimize the use of natural resources and energy, reduce waste, and prevent pollution;
3. making products that are "environment-friendly", with minimum impact on people and ecosystem.
4. Green accounting systems: Conventional accounts may result in policy decisions which are non-sustainable for the country. Green accounting on the other hand is, focused on addressing such deficiencies in conventional accounts with respect to the environment. If the environmental costs are properly reflected in the prices paid for goods and services then companies and ultimately the consumer would adjust market behaviour in a way that would reduce damage to environment, pollution and waste production. Price signal will also influence behaviour to avoid exploitation or excessive utilization of natural resources. Such measures would facilitate the approach of "Polluter Pay Principle". Removing subsidies that encourage environmental damage is another measure.

There is no doubt, that with the public opinion moving towards accountable socio-economic structures, ethical and eco-friendly business practices would be standard corporate norms.

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